

**Earth, Moon, and Sun** ▪ *Guided Reading and Study*

# Earth in Space

*This section explains what causes day and night and what causes the cycle of seasons on Earth.*

## Use Target Reading Skills

*As you read about seasons on Earth, stop and write what you know about that topic. As you read the passage, write what you learn.*

What You Know
1.
2.
3.
4.

What You Learned
1.
2.
3.
4.

## Introduction

1. The study of the moon, stars, and other objects in space is called \_\_\_\_\_.

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**Earth in Space** *(continued)*

**How Earth Moves**

*Match the term with its definition.*

<b>Term</b>	<b>Definition</b>
_____ 2. axis	a. The movement of one object around another object
_____ 3. rotation	b. The imaginary line that passes through Earth's center and the North and South poles
_____ 4. revolution	c. The path of an object as it revolves around another object in space
_____ 5. orbit	d. The spinning motion of Earth on its axis

6. What causes day and night?

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7. Each 24-hour cycle of day and night is called a(n) \_\_\_\_\_ .

8. Why is an extra day added to February every four years?

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**The Seasons on Earth**

9. Why is it warmer near the equator than near the poles?

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10. Why does Earth have seasons?

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11. Circle the letter of each sentence that is true.
  - a. Earth is closest to the sun when it is summer in the Northern Hemisphere.
  - b. The hemisphere that is tilted away from the sun has more daylight than the other hemisphere.
  - c. When it is summer in the Northern Hemisphere it is winter in the Southern Hemisphere.
  - d. In June, there are fewer hours of daylight and less direct sunlight in the Southern Hemisphere.
12. Each of the two days of the year when the noon sun is farthest north or south of the equator is called a(n) \_\_\_\_\_.
13. Each of the two days of the year when neither hemisphere is tilted toward or away from the sun is called a(n) \_\_\_\_\_.
14. Complete the table to show the relationship of Earth's tilt to the seasons in the Northern Hemisphere.

Earth's Seasons in the Northern Hemisphere			
Day in Northern Hemisphere	Approximate Date Each Year	Length of Daytime	Hemisphere That Is Tilted Toward the Sun
Summer solstice	a.	Longest daytime	b.
Autumnal equinox	c.	d.	Neither
Winter solstice	December 21	e.	f.
Vernal equinox	g.	Daytime equals nighttime	h.

15. Use the table to circle the letters of the statements that are true about Earth's seasons in the Northern Hemisphere.
  - a. When the Northern Hemisphere has summer, the Southern Hemisphere is tilted away from the sun.
  - b. In December, the shortest daytime is in the Southern Hemisphere.
  - c. The autumnal equinox falls on September 22 to mark the beginning of fall in both hemispheres.
  - d. An equinox occurs on the same days at the same time in both hemispheres.

